

BE -16

**ENVIRONMENTAL CARE ATTITUDE FORMATION IN BIOLOGY STUDENT
That program ENVIRONMENTAL SCIENCE COURSE
METHOD THROUGH PROJECT TASK**

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Abstract

During the cleanliness on campus only rely on the responsibility janitor, while the student as waste producers have no concern. So also with the lecturer, after the learning activities, there is no instruction to clean up garbage and let the process. Thus, there is no mutual cooperation among multiple components of the academic community in addressing environmental problems, especially garbage. Obviously this phenomenon, very contradictory, between learning in the classroom, even a task or process waste practices, but not implemented in everyday life on campus, majoring in Biology.

Formulation of the problem in this classroom action research is how the concept of the student in making empowerment system action plan for the campus residents due process waste in place (Department of Biology).

This research is Classroom Action Research (CAR) , applied to the Student Life Force 2013 whom reprogrammed subject Environmental Science / IPL . Diagnostic results are used to make the TOD steps of planning , implementation , observation , evaluation , and reflection . The series of lectures consist of three (3) meetings with the methods of project tasks with the task stage 1) practicum observation types of garbage for three (3) days of observation , 2) presenting the observation of the type of waste , and 3) create an action plan empower citizens campus system in sorting and process waste at the department of Biology thoroughly . Setting the current learning task that is practical projects 1 and 2 in small groups with a total membership of four (4) students . The number of small groups of about 30 groups . When practical to three , making of the action plan , setting learning in large groups , into 4 (four) groups with approximately 30 (thirty) students .

The results showed that an average of 1) the ability of students to carry out the type of garbage is a good observation , 2) the ability of students to present the results of the waste problem is a good observation , and 3) create an action plan empower citizens campus system in sorting and processing waste is classified as less . The shortage is not the role of the community in following up the garbage that has been disaggregated .

Keywords : sorting , waste management , project tasks

INTRODUCTION

A. Background

Campus environment cleanliness is carried out jointly by all components of the campus community will create harmony of life of the campus that eventually can build a better academic atmosphere .

Cleanliness intended meaning is clear of rubbish bins in a place that is completely processed at the Department of Biological Science UNESA . Types of processing by way of direct sale or action Re - Use. Dry waste is dried collect waste from Bina Mandiri Waste Bank city of Surabaya .

During the cleanliness on campus only rely on the responsibility janitor , while the student as waste producers do not have a concern , as well as the lecturer , after sailed teaching activities , there is no instruction to clean the garbage and let the process . Thus there is no mutual cooperation among multiple components in addressing environmental problems , especially garbage. Condition that there is no mutual understanding or good cooperation between component manufacturers and workers clean up the trash impact on gross campuses in places that are not the primary or place garbage in the Biology department store issues still unresolved till long time a ago .

Based on this background , the subject of Environmental Sciences / Biological Science with a major in IPL UNESA , on the subject of " Man as Trustees of the Environment" is an appropriate vehicle to carry the attitude of students concerned about the environment , especially the trash

Formulation of the problem

Formulation of the problem in this classroom action research is how the ability of students to create an action plan for the campus community empowerment systems process waste completely in place (Department of Biology) .

C. Objectives

The purpose of this study was the student can make an action plan for the campus community empowerment systems process waste due to be implemented in university life in the department of Biology .

D. Benefits

Benefits of the research is complete recycling system that can be applied in everyday life in the Department of Biology is an indicator that environmental concern due to process waste in the Department of Biology have started to appear . Applicative action is expected to be an example in the majors , faculty se UNESA environment . This activity can increase confidence in the education of students , especially of interest that are expected to apply to the school community to be fostered

RESEARCH METHOD

1 . Subjects Research

IPL subjects are compulsory subjects that must be programmed and must be passed by the second semester of biology students . Biology students who programmed the number of subjects in the second half of the IPL is a 119 students consists of 4 (four) classes , with details of classes A + B Biology 2013 a number of 36 students , Education Biology 2013 A number of 31 students , Education B Biology 2013 a total of 30 students , and the class of 2013 Biology

Education Featured some 22 students . SKS weights IPL 3/1 SKS , SKS and 3 weight means no lab activities .

Lectures on Wednesday and Thursday , the morning hours I - V (7:00 to 10:50) , and daytime hours VII - XI (13:00 to 17:30) . IPL lecture Wednesday morning for Biology Education 2013 class A , on Wednesday afternoon for Biology Education class B , class Thursday morning for Biology 2013 A + B , and Thursday afternoon class for Biology Education 2013 Featured . The event consists of the delivery of each lecture and lab materials or tasks .

2 . Type Research

This research is Classroom Action Research (CAR) , applied to the Student Life Force 2013 that reprogrammed subject Environmental Science / IPL . Diagnostic results are used to make the TOD steps of planning , implementation , monitoring and evaluation , and reflection . Each cycle consists of the planning, implementation , observation , evaluation and reflection . In this study consists of three (3) cycles or meeting . The task given to students in the third cycle is a continuous task that called the project tasks .

3 . The process of Works Research

The series of lectures consist of three (3) meetings with project assignment method with the following stages

- (1) The first meeting , an explanation of material " as Trustees Human Environment , and practicum observation types of garbage for three (3) days of observation ,
- (2) the second meeting , the presentation of the results of observation types of waste , and
- (3) the third meeting , practical plan of action to make the campus community empowerment systems in processing waste in the Department of Biology completed .

By the time students carry out practical tasks , it also presents the results of observation lab , students work in groups . The division of the group on the basis of the value in the semester General Biology I. Each group consists of 4 (four students) and academic ability of low, medium and high (Hanafi , H. and Suhana , C. 2009)

The series of events that observation assignment type of waste , the presentation of the results of observation , and the method of making an action plan with the project tasks . Place task is majoring in Biology in the area consisting of 2 floor building C2 , C3 2nd floor , 2nd floor next to the West C9 and C10 building 1st floor South side .

Each building has its own characteristics dependent activity courses that ultimately have an impact on the type of waste generated . C2 is a laboratory building Taxonomy and Ecology that there are types of leaf litter , soil . C2 region also includes the linking corridor between C2 and C3 are frequently used place to read and study and discussion of the students so frequently encountered type of junk food packaging that is not environmentally friendly . Even students often leave the type of food , it makes the hassle janitor . C3 building consists of many classrooms and offices so that the waste paper too much . Students also frequently move around the hall C3 , so often dispose of garbage after the reading room or classroom . One of the existing space in the building there is a lunch spot C3 Lecturer , of course, is a lot of junk food scraps . C9 Building , also many students activities lab biotechnology , network culture , so the trash Microbiology remnants media often encountered in each labratorium . C10 building used for Plant Physiology course . Animal Development and structure so that the waste of animals commonly found in plants. Each building is always a kind of plastic and paper .

Setting the current learning task that is practical projects 1 and 2 in small groups with a total membership of four (4) students . The number of small groups of about 30 groups with details of Biology Education classes 9, 2013 A number of groups , Biology Education class number 8 group B , class A + B Biology 2013 8 group number , and the class of 2013 Biology Education

Featured number 5 .. Each class group tasks for observation of the garbage problem in building C2 , C3 . C9 , and C10 . The event consists of the delivery of each lecture material , discussion , and lab or assignment .

When practical to three , making of the action plan in the campus community empowerment system to process waste at the completion of each building in the department of Biology . Setting learning in a large group up into 4 (four) major groups namely in building C2 , C3 , C9 and C10 . The number of members of each group of approximately thirty (30) students .

4 . Data Research

In accordance with the TOD design , the instrument of this study are as follows : 1) Observation Sheet Lecturer in carrying out learning activities (RPP) IPL ; 2) Observation Observation Sheet and Presentation ; and 3) Preparation of an action plan Assessment sheet Empowerment Systems in Managing Waste Campus residents Completed in the Department of Biology .

5 . Analysis of data

The data collected in this study were then analyzed descriptively . Each instrument data were analyzed for 1) to determine the learning activities Lecturer in managing learning ; instruments 2) observe student observation skills and communicate the results of observation , and 3) assess the action plan the campus community empowerment systems in managing complete garbage .

Learning activity data obtained from observational data on the activity of improvement lecturer used as the basis of learning IPL in the next cycle .

RESULT AND DISCUSSION

1 . Outcomes Research Cycle I

In the planning stages , beginning with the research team and to discuss coordination Outline Plan Class (GBRP) . Next meeting is divided in Team Teaching . RPP along with the accessories are also made . Topics in the first cycle is " The Human Environment Trustees " and ends with giving the task of learning the kinds of observations garbage in building C2 , C3 , C9 and C10 . The instrument is prepared (i) Lecturer observation sheet activity , and (ii) Observation Assessment Sheet . Teaching and learning process was observed by 3 (three) observers who also serves as Co- Assistant Lecturer , namely (i) Sri Utami , (ii) Sukma Dinar , and (iii) Syahwani Ulfah .

In the implementation phase , on 5 February 2014, the study begins with the lecturers motivate students about " The Human Environment Trustees " . This motivating theme lead to mankind as the highest among this creation , the role of the human dilemma , one side of utilizing nature as a resource in the environment, on the other hand also have to preserve nature . Lecturers also provide an opportunity for students to ask and respond to questions . At the end of the lesson , Lecturer gives practical tasks to observe the types of garbage in each room / building C2 , C3 . C9 . And C10 .

The observation of lecturers in conducting learning activities with project work method it appears that the activity of Lecturer in the implementation that consists of less well categorized introduction to the value of 68 , the core activities are categorized either by the value of 84 , the cover 88 are categorized either by value . Then the whole process of implementation of learning by lecturers using the task or project in the first cycle has been well categorized with an average value of 80 .

Observation in this research is to observe the activities of the type of garbage in the area of biology majors . This activity guide is on the Student Activity Sheet 1 with the title of Waste Type Identification . The purpose of this activity is that students can identify the type of garbage . The results are used to identify the basic grouping waste (sorting) which is the initial capital

waste . . Observation activities carried out in groups .

Skills observed types of waste observed with assessment of performance includes a) curiosity and b) a differentiated their honest.Range of curiosity value) less (60-69) , moderate (70-79) , and both (80-90) . Curiosity groups are good , if they can correctly identify the type of waste every day , especially began to appear moments began to move college students , lab work , meals from 10.00 until 15.00. High curiosity also comes with trash origins and types of activity . High value of honesty is achieved when the group can reveal the type of garbage that actually there every day according to the facts . Based on the analysis of these data , it appears that the learning cycle of skills I observe the type of garbage that gets good value category (80) .

After carrying out learning activities , further research team with all observers reflect on the learning that has been implemented . According to observers , Lecturer in implementing learning activities that require attention skills are explained , had to coherently so as to facilitate student understanding of the material . These deficiencies corrected in the second cycle .

2 . Outcomes Research Cycle II

In the planning phase , the prepared lesson consists of syllabi, lesson plans along with the accessories , and research instruments . Sheet instruments used is presenting skills of observation reports .

Implementation on February 12, 2014 , begins with the observation of motivating students about the types of waste in each building . Skills presents the results of observations in each room in each building with performance assessment includes the ability to a) report the results of observations , b) answering questions , and c) the team together . Distinguished a curiosity value range) is less well (60-69) , moderate (70-79) , and both (80-90) . The average ability of the group to report the observations quite well with the value 88 . Skills to answer questions , on average achieve better value (84) . Team togetherness in the group reached an average value of medium is 72 . Thus overall skill groups in the reported observations , showed the average is still relatively high or both is 81 . Based learning projects (project - based learning) suggests an approach to learning innovative , which emphasizes contextual learning through activities complex . The focus is on learning the concepts and core principles of a discipline of study, involving students in problem solving and investigative tasks meaningful activity to another, giving students the opportunity to work autonomously construct their own knowledge , and peaked produce tangible products (Forgarty , R. 1991) .

After carrying out learning activities , further research team with all observers reflect on the learning that has been implemented . According to observers , Lecturer in implementing learning activities that require attention is motivating to students should be fresh again in anticipation of saturation on the student . These deficiencies corrected on the third cycle .

3 . Outcomes Research Cycle III

In the planning phase , the prepared lesson consists of syllabi, lesson plans along with the accessories , and research instruments . The contents of the instrument is that students can make an action plan and sorting waste completely contained within each building . Aspects of the plan is a) means , b) officers , c) the role of the officer , and d) workflow system complete garbage sorting and processing . Means trash is to be prepared in each of the existing space in the existing space in the building. In each building used for different subjects so that type of waste generated is also different . Thus the need to be prepared differently according to the type of trash bins in every building .

Officer is part of a campus community that produces garbage and trash duty completed , such as students , employees , lecturers , and cleaners .

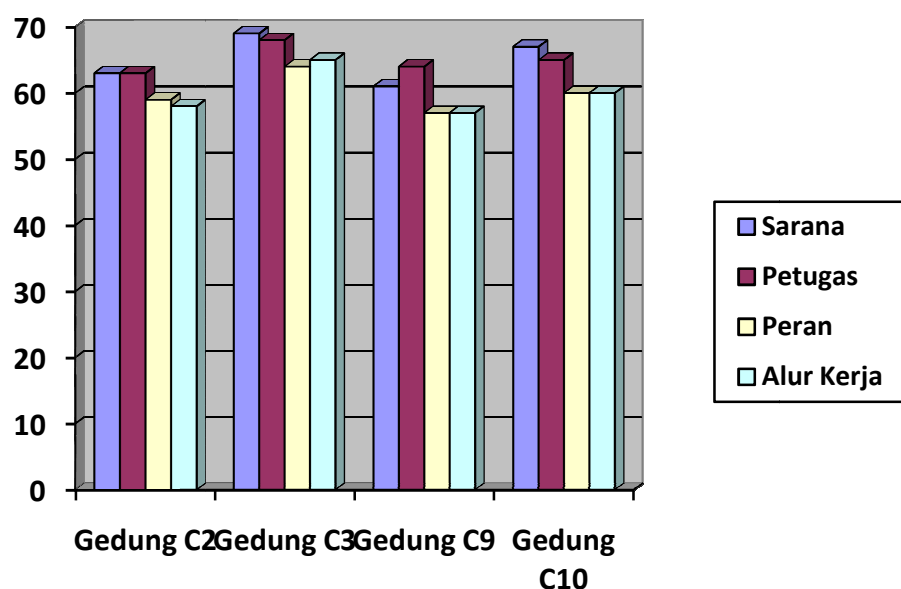
The role of the officer is a task that must be done by each officer in accordance with their roles, responsibilities \, and functions .

Workflow system complete sorting and processing operations is a chart that explains the procedural of officers and the role of each officer .

In the implementation phase , Lecturer start learning by providing questions that are relevant to the task of garbage observation conditions in each space in each building . In this discussion, the lecturer also explained the matter to enrich the knowledge of students . Once the student is ready to accept learning , lecturer explains sewage treatment system completely , including background , purpose , benefits , implementation and monitoring .

At the end of the lesson , Lecturer on action design was given the task of sorting systems and waste treatment completed in each of the existing buildings in the Biology Department in accordance with the division of the group . Lecturers give 2 (two) weeks to make observations . Lecturers also inform the components as assessment indicators . Lecturers give students the opportunity to ask the things that are less obvious , before ending the lesson .

Overall, the results of student project work in creating action plans sorting systems and waste treatment is completed on average relatively less value . Means should be prepared to put the kind of garbage is not good value at 65 . Value 65 means the student is not able to examine the type of waste generated by each course is carried out in each space . Component values Officer , as an agent in sorting systems and waste treatment completed as a component in the academic society , also showed less good value ie 63 . Average values that describe actions performed each day by each officer even showing any minimum value is 60 . Likewise with aspects of workflow system makes sorting and treatment completion , the average value is less good just 60 . Results of each task and group aspects such as in the following table .



Value students planning action plan is still in the range of approximately one to prove that students need to be trained so -Based Learning Project has big potency to make the learning experience more interesting and meaningful . In the Project -Based Learning , students become

more actively encouraged in their learning , instructor and student plays behind the initiative , instructors provide convenience and evaluate both meaningfulness project and its application to their daily lives. The product which made by the students during the project results can authentically measured by the teacher or instructor in the lesson . Therefore , in the Project -Based Learning , the teacher or instructor is not more active and direct train , but a companion instructor , facilitator , and understand the mind of the student . Value students planning action plan is still in the range of less than one .

In using the methods of this project there are steps that must be done by a lecturer to students is to create a schedule of activities outside of class hours . Agreement is scheduled meeting time is used to discuss things on the field that require completion . Time intensive discussion to enhance collaboration among students . will learn more in an environment collaboration (Slavin RE, 2000). Projects in Project -Based Learning is not a Lecturer creation , it says in the script, or set on the packet. Projects in Project -Based Learning does not end at a predetermined outcome or take paths (procedures) that have been set previously. Project Based Learning Project prefers autonomy , choice , labor time is not rigid , and student responsibilities rather than project transisional and traditional learning . Characteristics of the project gives authenticity to students . These characteristics may include trash conditions , duties and roles of each element in the academic community , the context in which the project work done , collaborators who work with students on projects , products, audience for the products of the project , or the criteria under which the product - product or performance assessed . Project Based Learning involves real-life challenges , focusing on the question or problem is authentic (not simulative) , and the solution has the potential to be applied in the real field

CONCLUSION AND SUGGESTION

1 . Conclusions

Based on the results of the project assignment average result comclude that:

- a) the student 's ability to carry out the type of garbage is a good observation ,
- b) the ability of students to present the results of the waste problem is a good observation , and
- c) create an action plan empower citizens campus system in sorting and processing waste is still quite lacking .

2 . Suggestion

Suggestions to consider in applying the method of project tasks in particular subject matter that builds caring attitude demanding environment supervisor in this case time Lecturer for orderly discussion outside of class hours in solving the problems faced by students .

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